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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/718,767	11/22/2000	Tsuyonobu Hatazawa	09792909-4673	2706

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EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/25/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/718,767

Applicant(s)

HATAZAWA ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action addresses claims 1-11. The claims are newly rejected under 35 USC §103, as necessitated by amendment. Accordingly, this action is made final.

### ***Claim Rejections - 35 USC § 103***

2. Claims 1-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/13629 (Chaloner-Gill).

Regarding claim 1, on page 7, line 16 et seq., the reference teaches a nonaqueous electrolyte battery comprising a lithium metal anode. Regarding claim 11, the battery is a secondary battery (see page 5, lines 6-8). With regard to claim 1, as shown in Figure 1, the battery element (10) is contained in an outer covering member composed of a laminated film (5) and is sealed by heat seals (32, 33, 34, 35). Regarding claims 1, 5, and 6, the battery comprises a gas absorbing material which is mixed with a resin material and extruded (i.e., molded) to form a gas absorbing member which forms one of the inner layers of the laminate (see page 5, lines 8-24). Regarding claims 2-4, the gas absorbing material may comprise a porous metal oxide (e.g., alumina) or activated carbon material (see page 19, lines 19 and 20).

The reference does not expressly teach that the gas absorbing material is present in an amount of 0.1 to 95 wt. percent on a basis of a weight of the resin material, as recited in claim 1.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use a suitable amount of gas absorbing material based on the size of the battery and/or electrode element, thereby rendering the claimed range obvious. It has been held that the discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980). In this case, it is known that an amount of gas absorbing material can be selected based upon the size of the battery. Accordingly, the range of gas absorbing material recited in claim 1 is not considered to distinguish over the reference.

3. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/13629 as applied to claims 1-6 and 11 above, in further view of Kamauchi et al (U.S. Patent 5,538,814).

WO 95/13629 does not expressly teach that the electrolyte is a gel electrolyte (claim 7), that the negative electrode contains a carbon intercalation material (claims 8, 9), or that the positive electrode contains a composite oxide of lithium and a transition metal (claim 10).

The patent of Kamauchi et al is directed to a lithium secondary battery. The battery may contain lithium cobalt oxide in the positive electrode (col. 4, line 30), a carbon negative electrode (col. 7, line 7), and a gel electrolyte containing a high molecular weight matrix polymer (col. 8, line 67; col. 11, line 5).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the disclosure of Kamauchi et al. provides the artisan sufficient motivation to use these materials in the battery of WO 95/13629. In column 4, line 41, Kamauchi et al. teach that the lithium cobalt oxide, when combined with other materials, provides the battery with "high electromotive force," and in column 7, lines 6-9, the reference teaches that the carbon negative electrode "effectively prevents dendrite[s] without lowering energy density of the secondary battery." Further, the reference teaches in column 12, lines 46-59 that the gel electrolyte "shows good adhesion with electrodes, which leads to an improved ionic conductivity." Accordingly, the artisan would be motivated to use each of these materials in the battery of WO 95/13629.

#### *Response to Arguments*

4. Applicant's arguments filed August 29, 2002 have been fully considered but they are not persuasive. Applicants assert that the Chaloner-Gill reference fails to disclose or suggest the weight ratio recited in claim 1. However, while it is acknowledged that the reference does not explicitly teach such a ratio, it is believed that the artisan would be sufficiently skilled to use a weight percentage falling within the claimed range. As set forth above, the amount of gas absorbing material is a parameter that may be manipulated based on the size of the battery. Column 6, lines 26-35 of Bullock et al (U.S. Patent 5,219,676) is cited as support for this statement:

The amount of the gel will vary from battery size to battery size within the guidelines of being a sufficient quantity to absorb all water vapor produced during the self-discharge reactions. For normal 12V automobile batteries having six cells, the amount could range between about 50 grams to 300 grams. One skilled in the

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art could readily select a desiccant quantity by knowing the battery size, plate construction and volume of electrolyte left in the battery after the dumping step.

Although Bullock relates to lead-acid batteries, its teachings regarding the battery size would be applicable to all batteries employing a gas absorbing agent. Accordingly, the artisan would be motivated to use a suitable amount of gas absorbing material in the battery of Chaloner-Gill, thereby rendering the subject matter of claim 1 obvious.

### *Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (703) 305-0051. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900. Additionally, documents may be faxed to (703) 305-5408 or (703) 305-5433.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink is positioned above a faint, circular official stamp. The signature appears to be 'N'. The stamp is mostly illegible but seems to contain some text around its perimeter.

JSC

October 21, 2002